LifeSize® Softphone™
User Guide

LifeSize Softphone

LifeSize Softphone is a standalone software video phone that enables Mac and PC users to collaborate with other standards-based video systems. The configuration panel allows expert users to optimize quality and performance.

Installation	Lists minimum requirements for supported systems.
User Interface Overview	Provides an overview of the LifeSize Softphone features.
Using LifeSize Softphone	Learn how to place a call, initiate a presentation, understand call statistics, and use command line parameters. This section also describes how to configure NAT firewalls and routers.

Related documentation is available from lifesize.com/support.

Section 1: Installation

To install LifeSize Softphone, run the setup executable file and follow the installer steps.

NOTE   To install LifeSize Softphone, your user account must have administrative privileges.

The installer creates a desktop icon from which you can launch the application.

NOTE   Quality and performance depend on your operating system and hardware configuration, including CPU power, network bandwidth, and the performance of your video capture device.

When you first launch LifeSize Softphone and when your trial period has expired, LifeSize Softphone prompts you to activate a license by browsing to the license file downloaded to your computer. A configuration wizard also guides you through the setup process. To access configuration options from the main window, click ⚙ **settings**. Read more at Configuration.

Click ⚙ **settings :** ⓘ to locate your license ID. You can change or upgrade your license by clicking **Select your license**.

Minimum Requirements for Windows

A CPU that supports SSE2 instructions is required, such as Pentium-4, Athlon-64, or later.

NOTE   Depending on your actual system software and hardware configuration, CPU requirements might be higher.

CPU	P4 class, 2.0 GHz	Video Calls (H.264 CIF RX, H.263 CIF TX)
	P4 class, 3 GHz	Video Calls (H.264 720p RX, H.263+ 4CIF TX) or (H.264 4CIF RX, H.264 CIF TX) at 1280 kb/s
	Core 2 Duo class, 2.33 GHz	Video Calls (H.264 720p RX at 2 Mb/s, TX) at 1280 kb/s
	Core 2 Duo class, 3.00 GHz	Video Calls (H.264 720p RX&TX) at 2 Mb/s
	Core 2 Quad class, 2.66 GHz	Video Calls (H.264 1080p 15 f/s RX&TX) at 1280 kb/s
GPU	OpenGL 1.1	Hardware accelerated video drivers are required

RAM	1 GB	Windows Vista (recommended 2 GB)
Hard Disk Space	60 MB	Excluding space for recorded calls
OS	Windows XP / 2003 / Vista / 7	64-bit operating systems are supported (80x86 architecture only)
Audio Device	Fully DirectSound compliant	Device must support 48 KHz sampling rate for input and output
Video Capture Device	Required to send live video. Fully DirectShow compliant	Device must support one or more of the following color formats: I420, YV12, YUY2, UYVY, HYDC, DV (IEEE-1394), RGB32, MJPG

DV cams connected through FireWire IEEE-1394 are supported on Windows XP (or later) operating systems.

NOTE   Audio input from DV cams is not supported.

Certified High End Configuration

The following system components have been certified for full HD calls with the following parameters:

- Bandwidth: 2 Mb/s duplex

- Video Codec: H.264 1080p, 30 f/s

- Audio Codec: G.722.1 Annex-C

CPU	Core 2 Q9550, 2.83 GHz
GPU	AMD Radeon HD 3470 (OpenGL) nVidia GeForce 8800GT (OpenGL)
RAM	4 GB DDR2 400 MHz (dual channel)
OS	Vista x64
Audio Device	Analog Devices SoundMax Integrated Digital HD Audio
Video Capture Device	Logitech HD Pro Webcam C920

Minimum Requirements for Mac OS X
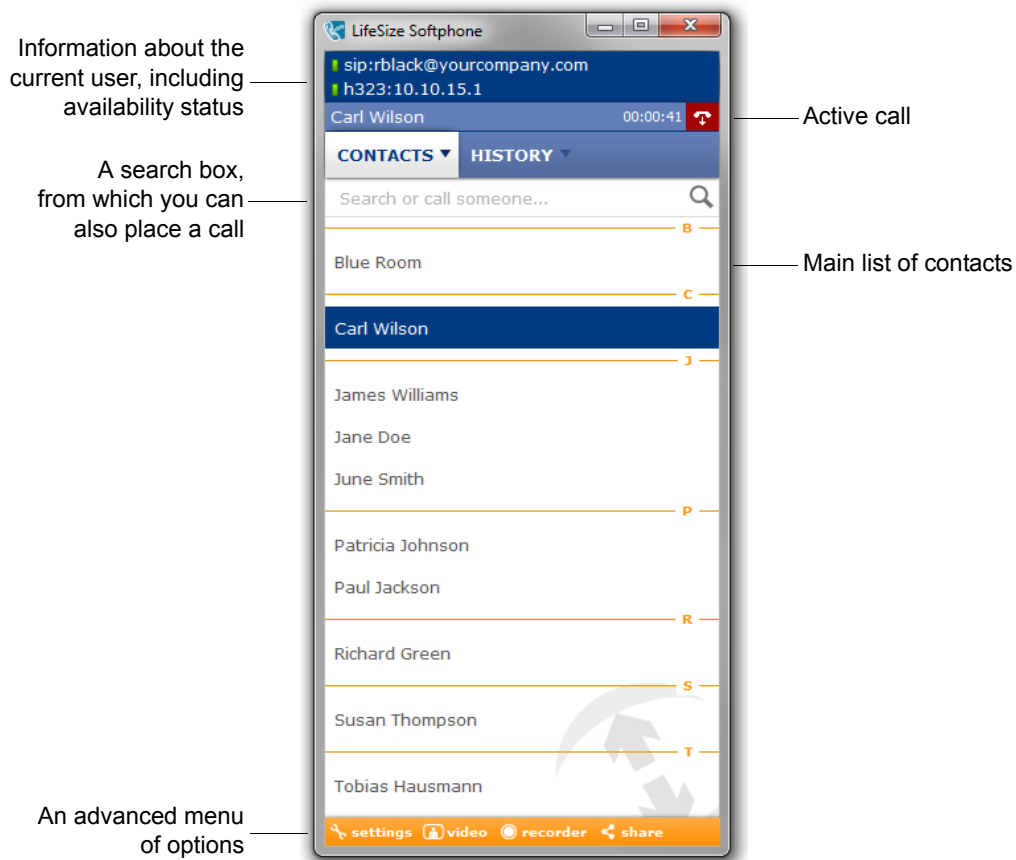
PowerPC processors are not supported.

DV cams connected through FireWire IEEE-1394 are not supported on Mac OS X.

CPU	Core 2 Duo class, 1.8 GHz	Video Calls: H.264 720p RX, H.263+ 4CIF TX; or H.264 4CIF RX, H.264 CIF TX at 1280 kb/s
	Core 2 Duo class, 2.33 GHz	Video Calls: H.264 720p RX at 2 Mb/s, TX at 1280 kb/s
	Core 2 Duo class, 3.00 GHz	Video Calls: H.264 720p RX&TX at 2 Mb/s
	Core 2 Quad class, 2.66 GHz	Video Calls: H.264 1080p 15 f/s RX&TX at 1280 kb/s
RAM	1 GB	Recommended 2 GB
Hard Disk Space	60 MB	Excluding space for recorded calls
OS	Mac OS X 10.5 (Leopard)	
Audio Device	Any integrated audio device	
Certified Video Capture Devices	- All Apple iSight webcams - BlackMagic Intensity or Intensity Pro PCIe board - Sony EVI-HD3V and EVI-HD7V (through HDMI input to Blackmagic board) - Microsoft LifeCam Cinema - Logitech Quick Cam Vision Pro (Recommended) - Logitech Quick Cam Orbit AF - Logitech Quick Cam 3000 - Logitech Pro 9000 - Webcam Deluxe HP (KQ246AA) - Webcam 2-Megapixel Autofocus HP (GJ502AA) - Creative VF0280 Live	

Section 2: User Interface Overview

Main Window

The main window appears when LifeSize Softphone launches and includes the following areas:

Information about the current user, including availability status

A search box, from which you can also place a call

An advanced menu of options

Active call

Main list of contacts

From the main window, you can place a call, manage contacts, view history, play recorded calls, and change settings. You can also perform operations on currently active calls, such as placing the far end on hold or ending the call.

User Information

The user information section contains the following information about the local SIP and H.323 URIs:

System status	Icon representing whether the video system is available
Dial string	Complete dial string that other users enter to call your LifeSize Softphone from any standards-based device, such as mark.white@sea.mydomain.com

Search

Use the search box to complete the following tasks:

- Search for contacts and logged calls.

- Place a call to an IP address or dial string. Press [icon] to place the call.

As soon as you start typing in the search box, a search is performed in the contacts and history lists. Matching results are shown in real time in the main list. Navigate the search results with the keyboard as follows:

- Press the up and down arrow keys to navigate the resulting list.

- Press **Enter** to call the selected entry. If no entry is selected, LifeSize Softphone uses the search criteria to dial a call.

- Click **call**.

Main List

The following lists are available:

- contacts

- history

- search results

Contacts

The list of contacts is the address book for your LifeSize Softphone. Use this list to place a call. Customize this list by adding or editing contacts. When a contact is currently in a call, the status icon and the contact entry reflect the current call status.

When the contacts list appears, you can complete the following tasks:

- Click **call** to call the contact.

- Click ▼ next to **Contacts** to **Create new contact**. Read more at Creating and Editing Contacts.

- Click ▼ next to a contact's name to show details for the contact. If you created the contact, you can change the associated properties:

  - **Edit**. Read more at Creating and Editing Contacts.

  - **Delete contact**. After confirmation, the deletion cannot be undone.

History

The history list contains the call history of your LifeSize Softphone. History includes incoming, outgoing, and missed calls. Manage call history by deleting entries or clearing the entire history.

Each entry in history reports the following information:

- Remote party of the call. The display name appears, if available.

- Call type, including OUT (outgoing), IN (incoming), and MISSED.

- Time and date of the call.

A single call is associated with a contact's call history if the called dial string matches that of a current contact.

You can complete the following tasks from any entry in the history list:

- Click **call**.

- Click ▼ next to **History** to show the following options:

    - **Delete all history**

        NOTE   The **Delete all history** action cannot be undone. After the operation is completed, the current history is no longer available.

    - **Show missed**

    - **Show incoming**

    - **Show outgoing**

- Click ▼ to show the following details of a call that is linked to a contact:

    - **Delete call** removes the entry from history. This action does not delete any contact linked to the call.

        NOTE   After confirmation, the **Delete call** action cannot be undone.

- Click ▼ to show the following details of a call that is not linked to a contact:

    - Add the far end caller as a new contact. Read more at Creating and Editing Contacts.

    - **Delete call** removes the entry from history.

        NOTE   After confirmation, the **Delete call** action cannot be undone.

Search Results

The search box shows results as you type. The search results are sorted as follows:

- personal contacts

- calls in history

If an entry is a personal contact, you can perform the actions described in Contacts. If an entry is a call in history, you can perform the actions described in History.

Active calls

After a call starts, it appears in the active calls area. For each call, the display name of the far end and the call status appear. If the call is connected, the call duration appears instead of the call status.
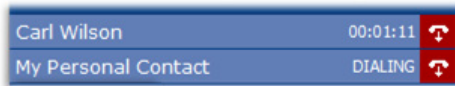
Read more at Placing a Call.

Call status includes the following values:

- DIALING

- RINGING

- ON HOLD

- DISCONNECTED

- UNREACHABLE

- BUSY

When a call is connected, the connection duration appears. Click to drop the call or **hold** to put the call on hold. When a call is on hold, the command toggles to **resume**.

Right-click the call to complete the following tasks:

- **Start call recording**. After the recording starts, appears to the left of the call. With recording started, the command toggles to **Stop call recording**.

- **Share application** opens a new window to initiate a presentation. Read more at Application Sharing Window. If you are sharing an application, the command toggles to **Stop sharing application**.

- **Enable privacy mode** disables local video. If the privacy mode is enabled, the command toggles to **Disable privacy mode**.

Advanced menu

The advanced menu includes the following options:

- **settings**. Read more at Configuration.

- **video**. Read more at Call Window.

- **recorder**. Read more at Recorder Window.

- **share**. This option is enabled only when a call is connected and when no application is shared. Read more at Application Sharing Window.

NOTE   When an application is shared, **share** is highlighted. Clicking **share** again stops application sharing.

Call Window

The call window is the main work area during video calls. You can also use the call window to preview the local video by clicking 🔲 **video** from the main window or **Show local video** in **settings : VIDEO**.

When one or more video calls is active, the call window appears and moves on top of any other window. The call window includes the following menus:

Horizontal call menu: Manages a single call	
📞	Drops the call.
▌▌	Toggle to put the call on hold and resume the call.
⏺	Toggle to start and stop recording.
✛	Opens the FECC keypad. Read more at Far End Camera Control.
▦	Opens the keypad for sending DTMF tones. Read more at Sending DTMF Tones.
Vertical main menu: Manages global, call-related settings	
🎤	Toggle to mute and enable the microphone.
🔊	Toggle to mute and enable the speakers.
🔲	Toggle to disable and enable the camera's privacy mode. Read more at Privacy Mode.
▦	Allows you to select a call layout.

> **NOTE** The layout list might vary, depending on the number of active calls and on whether the local or far end caller shares an application.

Configuration

To access configuration options for LifeSize Softphone from the main window, click 🔧 **settings**. You can choose the following options:

- **OK** applies and saves changes and then closes the window.
- **Apply** applies and saves changes but leaves the window open.
- **Cancel** closes the window without applying any changes. You can also cancel changes by clicking X to close the window.

> **NOTE** Consult with your system administrator or telephony service provider if you have questions about network or protocol settings.

General Settings

Start at login	Launches LifeSize Softphone when you log in to your computer.
Disable screen saver on call	Disables the system screen saver while LifeSize Softphone is running and a call is active.
Auto answer	Automatically answers incoming calls.
Disable auto update	Disables the prompt to update even if a new version is available.
Choose language	Specifies the language that appears in the user interface.

NOTE   Some graphics drivers might be incompatible, causing slowdowns, graphics artifacts, or even application and system hangs. If you encounter problems with a graphics processing interface, either update your video drivers to the latest stable version or change to another graphics processing interface.

Audio Settings

The audio settings allow you to configure devices for audio capture, playback, and ringing.

Microphone

Device	Select your audio capture device. While you talk normally, a green bar shows your voice level in real time. If a clipped signal is detected, the input level is automatically adjusted to avoid distortion.
Volume	Use the volume slider to adjust the output level of the selected device. NOTE: If the echo canceller is enabled, the input level is automatically adjusted in real time (also during the call).
Echo canceller	Enables the acoustic echo canceller to ensure top audio quality. NOTE: The echo canceller removes the far end voice from your microphone input so that the far end does not hear an echo of its audio. If you detect your local audio, ask the far end to activate the echo canceller. When the echo canceller is active, the microphone level is automatically changed in real time, according to estimated environmental parameters.

Speakers

Device	Select the audio playback device to play in call audio.
Volume	Use the volume slider to adjust the output level of the selected device.
Test	Click to test the output volume.

Ringing

Device	Select the audio ringing device to play the ringtone and other notifications.
Test	Click to test the output volume.

Video Settings

The video settings allow you to select and configure your video capture device.

Device	Allows you to select your video capture device. If the list is empty, ensure that your device is connected and switched on and that the driver is installed. Ensure that you are using the latest driver from the device manufacturer.
Open driver settings	Opens a new window that contains specific settings for your video capture device. These settings are provided by the device driver and depend on the manufacturer, model, and driver version. Some devices might not retain their settings after a system reboot. Refer to the documentation included with your device for more information.
Show local video	Opens the local video windows to check your video settings, such as selected device and format. NOTE: If a solid blue image appears when you use a PCI capture board, use the driver settings to switch the input source.
Format	Specifies the capture resolution, frame rate, and pixel format. All formats supported by both LifeSize Softphone and the selected device appear. Read more at Capture Resolution, Frame Rate, and Pixel Format. *Auto*, the default value, sets all parameters according to the current maximum video output format configured in **settings : CODECS**. Read more at Codecs Settings.
Current	Shows the currently selected video format.

Capture Resolution, Frame Rate, and Pixel Format

Select a video format in 🔧 **settings : VIDEO** to define the video's capture resolution, frame rate, and pixel format.

- **Capture resolution**. A larger capture size improves image quality, especially for transmission of 4CIF format and higher.

  Higher capture quality means higher CPU load. Depending on the actual resolution supported by your device and the transmitted video format, the captured image might be cropped or feature tiny black borders, due to aspect ratio conversion.

- *Windows only:* **Frame rate**. For capture devices that support a range of frame rates, one option is available for the maximum frame rate supported and, if supported by the device, two options are available for the standard frame rates of 29.97 Hz and 15.00 Hz. For capture devices that support fixed frame rates, one option is available for each rate. Select the desired capture frame rate that also limits the maximum call frame rate. The actual call frame rate might depend on the remote party phone capabilities and bit rate.

Higher frame rates create a higher CPU load. Increasing the frame rate on consumer webcams might degrade picture quality due to increased sensor thermal noise. Some USB devices might not work correctly or might capture a black image if set to 30 f/s. (This result also depends on the resolution and other USB devices that are present on the bus). If your webcam ignores the frame rate settings when set to auto-exposure, increase room lighting to improve actual frame rate.

- *Windows only:* **Pixel format**. For a given resolution and frame rate, all available pixel formats are listed in order of CPU power requirements. Different formats do not improve or degrade image quality and are provided only for compatibility with faulty capture devices.

Depending on your system speed and configuration, increasing the frame rate or capture resolution might cause LifeSize Softphone to exhaust its CPU power and degrade its performance.

Codecs Settings

Use the codecs settings to enable each media codec and video format independently for receive (RX) and transmit (TX). The options present on this panel depend on the server side configurations that your IT administrator sets.

For each of the settings, select **TX** to enable the encoder for transmission and **RX** to enable the decoder for reception.

NOTE	If you experience problems during a call, such as audio-video errors or delays, disable the higher resolution video formats (4CIF, QHD, 720p and 1080p). If you continue to experience problems, disable both **RX** and **TX** on the H.264 video codec.

H.224 allows you to send far end camera control (FECC) commands used to adjust the far end camera. Use FECC commands to navigate visual menus with the arrow keys (for example, some MCU series). Read more in Far End Camera Control.

NOTE	LifeSize recommends that you keep H.224 enabled, as this protocol does not affect performance or bandwidth.

Read more about H.239 and related advanced properties in H.239 Application Sharing.

Network and Protocols Settings

This panel allows you to configure LifeSize Softphone for your network environment.

IP Network Settings

IP network type	Allows you to configure settings for IP telephony protocols. Choose one of the presets or **Custom** to customize your receive and transmit speeds to best suit your connection type. All values are specified in Kb/s (units of 1000 bits per second).

AIBC (Automatic Input Bandwidth Control)	Allows LifeSize Softphone to request that the remote party change its output bandwidth based on real time network statistics. Enable this option if you use an error-prone network connection, such as the public Internet. NOTE: Some third party video systems might ignore or otherwise not support bandwidth change requests.
Local IP Address	If your network features more than one adapter, you can choose the IP address that LifeSize Softphone uses. Leave this value set to *Auto* unless LifeSize Softphone auto detection is not working or you want to specify a different IP address.
NAT IP Address	If your network uses NAT, you can specify the external NAT IP address. If your network does not use NAT, set this field to *0.0.0.0*.
Port Range	Allows you to limit the port range for both RTP traffic and TCP call control connections. This setting is required only if you must configure a specific port range, typically when using a firewall. NOTE: Consult your network administrator or service provider for the correct values.
QoS	*Windows only*: Allows you to enter the DiffServ value (from 0 to 63) for media packets sent by LifeSize Softphone over networks supporting Quality of Service (QoS). Set to 0, the default, if you are unsure of the appropriate value. NOTE: To use a QoS value other than 0, you must have administrative rights and the Windows **QoS Packet Scheduler** must be enabled for the current network interface.

Media Encryption

Select one of the following settings for your system's media encryption policy:

- **Disabled**. No calls are encrypted.
- **Enabled**. If possible, all calls are encrypted.
- **Required**. All calls are encrypted. Calls that cannot be encrypted are dropped.

Telephony Protocols

Enable or disable the telephony protocols that your license supports.

LifeSize UVC Transit

Enable or disable integration with LifeSize UVC Transit (or LifeSize Transit). LifeSize UVC Transit enables firewall and NAT traversal and the option to always tunnel media. The LifeSize UVC Transit Server name, username, and password are required.

SIP

Options for SIP are available only if the protocol is enabled.

SIP User	The SIP user portion of your SIP URI. If you use a SIP registrar, you can override the default host or domain portion of the URI by appending @*host* or @*domain*. Example: *alice@mirial.com*
Local port	Used by LifeSize Softphone. The default value is 5060. Both UDP and TCP use the local port.

Display Name	Name that appears on the remote video system.
Advanced SIP Settings	• **RFC-3581 UAC**. Select this option to enable SIP RFC-3581 UAC behavior for SIP signaling NAT traversal.
	• **Call Establishment Timeout**. Increase this value if calls require more than 32 seconds to connect through external gateways (such as PSTN). The default value is 32 as per RFC-3261.
	• **Transport**. Enable UDP and/or TCP transport for outgoing SIP requests. To comply with RFC-3261, incoming requests are always accepted on both protocols regardless of the transport protocol you selected. Microsoft Live Communication Server (LCS) supports only TCP. If more than one protocol is enabled, LifeSize Softphone performs the standard transport selection procedure. However, for compatibility with nonstandard third party equipment, you might have to enable just one of the supported protocols. LifeSize strongly recommends that you enable both TCP and UDP unless you must register LifeSize Softphone with Microsoft LCS. If you register with an LCS server, you must enable TCP transport and disable any other transport. Also ensure that your system is part of the LCS domain. Some SIP terminals do not support TCP signaling. To interoperate with these terminals, enable only UDP and disable the other protocols. Also disable unused codecs and video formats in **CODECS** so that all SIP messages fit in a single UDP packet.
	• **Authentication**. Enter the default username and password to access the SIP service. Typically, the username is the same as your SIP username. LifeSize Softphone supports Digest, Kerberos and NTLM authentication challenges.
Use Registrar	Select this option to define the following: • **Registrar**. Hostname or IP address of the SIP registrar. • **Custom port** of the SIP registrar. • **TLS**. This option appears if your network is licensed for TLS and you have configured it in **Advanced Settings**.
Use Outbound Proxy	Select this option to define the following: • **Proxy**. Hostname or IP address of the SIP proxy. • **Custom port** of the SIP proxy. • **TLS**. This option appears if your network is licensed for TLS and you have configured it in **Advanced Settings**. NOTE: Many SIP services use a proxy registrar (both the registrar and proxy reside on the same host). If your provider refers to a proxy registrar or a SIP server, use the same hostname and port number to enable and configure the registrar and the proxy.

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H.323

Options for H.323 are available only if the protocol is enabled.

H.323 Name Phone number	Your H.323 alias and phone number. Spaces are not allowed. The phone number follows the E.164 standard.
Advanced H.323 Settings	• **Disable Early H.245**. Leave this option selected to improve compatibility with non-standard network equipment. • **H.245 Tunneling**. Select *Disable* unless H.245 tunneling is required. Values include *Disable*, *Accept*, or *Accept & Propose*. • **Authentication**. Specify the default username and password to access the H.323 service.
Use Gatekeeper	Select **Use Gatekeeper** to show the following options: • **Gatekeeper autodiscovery**. If you select this option LifeSize Softphone attempts to find an available gatekeeper in your network. If you have more than one gatekeeper in your network, disable this function and specify the gatekeeper. • **Gatekeeper (name or IP)**. Specify the host and port of the gatekeeper. If your gatekeeper has an RAS port other than 1719, the default, enter a semicolon and the port number after the host. For example: *mygatekeeper:port*
Use Gateway	If you do not use a gatekeeper, you can configure a default H.323 gateway for all H.323 calls. NOTE: To place a call through an external H.323 gateway when a default gateway is not configured, enter *h323:alias@gateway*, where *alias* is the alias or number of the call recipient and *gateway* is the IP address or hostname of the H.323 gateway.

About

Click ⚙ **settings :** ⓘ to locate your LifeSize Softphone release number, which is useful for troubleshooting, and copyright information. Apply a license by clicking **Select your license**. The new license is applied the next time you start LifeSize Softphone.

Recorder Window

Click ⦿ on the main window to open the recorder window for managing and playing recorded calls.

Click **play** to open the recorder call player window and play the selected recorded call.

Click ▼ to show a recorded call's details, including recording start date and time, duration, and approximate size. You can also manage the recording as follows:

• **Play** opens the recorder call player window for you to play the selected recorded call.

• **Export as wmv** opens a platform dependent dialog box that lets you choose the target file for the exported recorded call. Progress appears in the recorder window or the recorded call's details.

• **Edit** opens the recorded call edit window. Read more at Recorded Call Edit Window.

- **Delete** removes the recorded call from the list and the file system.

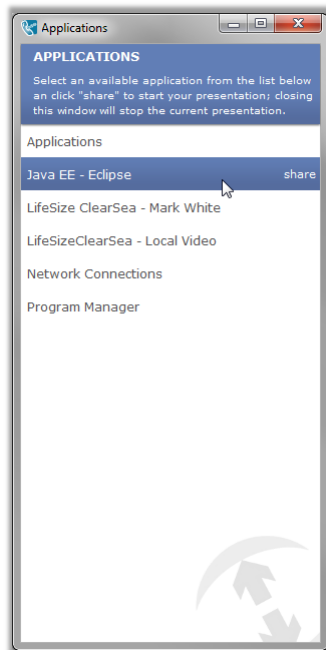NOTE   The **Delete** action cannot be undone after it is confirmed.

Recorded Call Player Window

The recorded call player window allows you to play, pause, and stop video recordings.

Application Sharing Window

The application sharing window allows the user to share an application during a call.

To share one of the available applications, click **share** next to the application's name.

LifeSize Softphone shares the selected application immediately in any active call. If an application is already shared, the newly shared application replaces the previously shared application.

To stop sharing, close the application sharing window or click **share** in the main window.

When you end a call, application sharing also ends.

Creating and Editing Contacts

To create a personal contact from the main window, click ▼ next to **CONTACTS** and click **create new contact**. To edit a contact from the main window, click ▼ next to the contact's name and click **Edit**.

Name	Display name that appears in the main contacts and history lists.
H.323 Alias **SIP URI**	SIP or H.323 address of the contact. You can specify whether the contact uses a SIP or H.323 contact by prepending `sip` or `h323`. LifeSize Softphone can automatically detect it for you, as the following examples show: • `h323:10.10.10.10` identifies an IP address to call with H.323. • `sip:alice@company.com` identifies a SIP URI. • `alice@company.com` identifies an address that might use H.323 or SIP. LifeSize Softphone detects the protocol that the far end uses.
Contact details	Text fields for additional, optional information.

The following actions are also available:

• Click **OK** to save changes. Duplicate entries are not allowed.

• Click **Cancel** to close the window without applying any changes. You can also cancel changes by clicking X to close the window.

Recorded Call Edit Window

Use the recorded call edit window to view a recorded call's details and to edit its name and description.

| Name	Display name that appears in the Recorder window list.
Description	Description of the recorded call.
Call to	Dial string of the far end.
Recorded on	Recorded call's start date and time.
Duration	Recorded call's duration.
Size	Approximate amount of space that is occupied on the disk.

Section 3: Using LifeSize Softphone

Placing a Call

Use any of the following methods to place a call with LifeSize Softphone:

- Type the IP address or dial string in the search box and press 📞 (or **Enter**).

- Click **call** from an entry in the search results, contacts, or history.

Including Multiple Callers in a Call

LifeSize Softphone supports two concurrent lines. When you place or receive a call, the first available line is used. If two calls are connected, both calls appear as active calls.
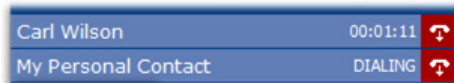
When more than one call is connected, LifeSize Softphone acts as a multi-conference device by default. LifeSize Softphone mixes audio and composites video streams so that each of the three parties can hear and view each other.

To place a call on hold, position the cursor over the call duration value and press **hold**. When a remote caller is on hold, LifeSize Softphone sends music and a static slide. No live audio and video is sent, and any media received from the remote party is ignored. To continue the call, click **resume**.

Learn more at Call Window.

Initiating Presentations

To send the content of a local application window as a presentation to the remote caller, click ⦿ **share**.

NOTE   At least one call must be active to send a presentation.

Select an application from the list and click **share**. The selected application window remains on top of any other window while the presentation is in progress to allow the capture of window content in its entirety.

If you mouse over the application window, LifeSize Softphone overlays a red arrow pointer on the output video to simulate the mouse pointer.

When initiating a presentation, the best available sharing method – either H.239 application sharing or video application sharing, depending on your configuration – is used automatically.

H.239 Application Sharing

If you enabled H.239 in ✎ **settings : CODECS** and the remote party supports ITU-T H.239 (H.323) or RFC-4796 (SIP), H.239 application sharing is used.

H.239 application sharing allows a high-resolution additional video channel for the presentation, in addition to the live video channel, so that the speaker remains visible while sharing. The remote sharing content is typically sent at high resolution. LifeSize Softphone supports up to 1280x768.

Configure H.239 codecs and bandwidth in ✎ **settings : CODECS**. The H.239 video codecs and resolutions are independent from the live video codecs and resolutions.

Consider an example in which H.239 is configured to allow both H.263 and H.264 codecs for both receiving (RX) and transmitting (TX). When the presentation is active with the bandwidth set to 70 percent, the total output video bandwidth is partitioned as follows:

- 70 percent for the H.239 presentation
- 30 percent for live speaker video

You cannot configure H.239 video formats because LifeSize Softphone automatically selects the highest available size to transmit the presentation video.

Video Application Sharing

If H.239 application sharing is unavailable, LifeSize Softphone sends the application content instead of the local live video. Adjust the size of the window to best fit the output proportion and render text more readable.

In this sharing method, the presentation video uses the same resolution as the live video. Consider enabling at least the 4CIF video format in ✎ **settings : CODECS**. Video application sharing in 4CIF or HD resolution is recommended for best results.

Privacy Mode

If you do not want to send your local video to the far end, select one of the following options:

- From the call window, click 🔲 or press the spacebar on your keyboard.
- From the main window, right-click the active call row and choose **Enable privacy mode**.

The far end receives your audio, but a privacy mode image appears instead of your live video.

Far End Camera Control

The FECC protocol, H.281 over H.224, allows you to control a remote camera or navigate a device's visual menus. FECC requires that H.224 is enabled and supported by the remote video system. In LifeSize Softphone, click ⚒ **settings : CODECS** and enable **Far End Camera Control**.

NOTE   LifeSize Softphone can both send and receive FECC commands. However, webcams with motors are not supported. Receiving FECC commands from a remote video system that features a webcam with a motor has no effect.

While in a call, press ✛ to open the FECC keypad. The following options are available:

- pan

- tilt

- zoom

- focus

Sending DTMF Tones

LifeSize Softphone supports the following DTMF forwarding methods:

In Band	Allows you to send DTMF tones to the remote party as audible tones over the audio channel. Consequently, the audio channel must be open and active. Only the remote user hears the dialed tones.
Out of Band	Allows you to send DTMFs in a separate data channel. No user, local or remote, hears the tones.

While you participate in a call, LifeSize Softphone allows you to use the dial pad of the local video window to forward DTMF tones. Press ⌗ to open the keypad.

Clicking the buttons sends the DTMF tones by automatically detecting the DTMF method of the far end:

- Out of Band, if supported by the remote video system

- In Band, if Out of Band is not supported

Right-clicking the buttons forces the DTMF tones to be sent using the In Band method.

Call Statistics

Press the **S** key on the keyboard to show or hide call statistics while in a call.
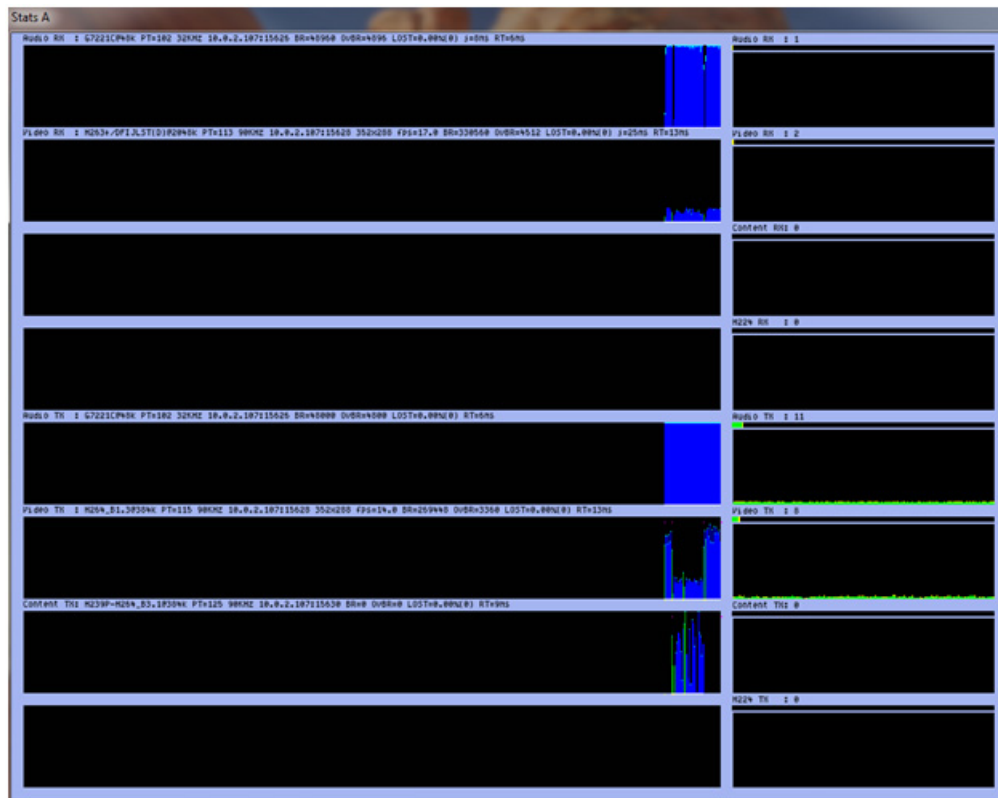
Statistics appear in real time for the following media channels, if open:

Audio RX	Audio input channel
Video RX	Primary video input channel
Content RX	Secondary or H.239 video input channel
H.224 RX	Data input channel
Audio TX	Audio output channel
Video TX	Primary video output channel
Content TX	Secondary or H.239 video output channel
H.224	Data output channel

The following information appears for each channel:

- Media channel name. If the channel is encrypted, the name appears in red.

- The maximum and negotiated bit rate for the codec in units of 100 b/s. This entry uses the form codec@maxbitrate/negbitrate.

- RTP payload type.

- IP address:port (local for input, remote for output).

- Current video resolution and frame rate.

- RTP clock frequency.

- Current codec payload bit rate in bits per second.

- Current transport overhead bit rate in bits per second.

- Percentage of lost packets during the last 1 second.

- Packet queue visualizer.

The color of the graphical representation of the channel corresponds to the operation:

- **Blue**. Codec payload bit rate.

- **Cyan**. Codec overhead bit rate.

- **Magenta**. Bit rate change requests.

- **Yellow**. Fast update requests.

- **Red**. Decode errors (for input channels only).

- **Green**. Sent or received video intraframe (for supported codecs).

Command Line Parameters

Use the following command line commands to control LifeSize Softphone. All command line parameters are case-sensitive.

`--minimized`	Launches LifeSize Softphone in a minimized state.
`!!!q`	Exits LifeSize Softphone.
`!!!m`	Minimizes LifeSize Softphone.
`address`	Places a call to *address* on the active line.

Windows: Minimize a running application instance by entering the following command:

        `"C:\Program Files (x86)\LifeSize Softphone\bin\Softphone.exe" !!!m`

Windows: Place a call to `alice@company.com` by entering the following command:

        `"C:\Program Files (x86)\LifeSize Softphone\bin\Softphone.exe" alice@company.com`

NOTE   On Windows systems, include a double quote before and after the LifeSize Softphone executable path.

Mac: Minimize a running application instance by entering the following command:

```
/Applications/LifeSize\ Softphone/Contents/MacOS/Softphone '!!!m'
```

NOTE   On Mac systems, include a backslash before each space and include a single
        quote before and after the parameter.

Integrating LifeSize Softphone into a Web Page

Use the following commands to integrate LifeSize Softphone into a web page:

`softphone://`*`address`*	Starts a call to *`address`* on the first available line.
`softphone://!!!q`	Exits LifeSize Softphone.
`softphone://!!!m`	Minimizes LifeSize Softphone.

Use the `callto` command to trigger these same actions:

```
callto://address

callto://!!!q

callto://!!!m
```

Both LifeSize Softphone and LifeSize ClearSea Client recognize the `callto` command. Because `callto` is not unique to LifeSize, other applications on your system might also recognize the command. However, only one application can use it. Typically, the most recently installed application uses the command.

The following example integrates LifeSize Softphone into a simple HTML page:

```
<html>

   <body>

       Click <a href="softphone://address">here</a> to place a call with
       LifeSize Softphone to address.

   </body>

</html>
```

To test the example, save the code in a plain text file named `test.html` and view it in a browser.

Firewalls and NAT Routers

This section describes how to configure firewalls and NAT routers.

NOTE   Use the instructions in this section only if your environment does not include LifeSize UVC Transit (or LifeSize Transit) for firewall traversal.


Firewalls

The first time you start LifeSize Softphone in Windows, the operating system prompts you to block or unblock LifeSize Softphone. Press **Unblock** to allow LifeSize Softphone to traverse the firewall.

If you have installed another software firewall, a similar prompt appears. Refer to the documentation included with your firewall for instructions on enabling LifeSize Softphone to traverse the firewall.

H.323 Ports

If you are using H.323, enable the following ports on the firewall:

UDP 1718	Open if gatekeeper discovery is required.
UDP 1719	Gatekeeper RAS.
TCP 1720	Call signaling.
UDP nnnn...mmmm	RTP port range configured in 🔧 **settings : NETWORK & PROTOCOLS**. The configured RTP port range might be as small as 4 ports; a minimum of 64 ports is recommended.
TCP xxxx...yyyy	Call control port range configured in 🔧 **settings : NETWORK & PROTOCOLS**. The configured TCP port range might be as small as 1 port; a minimum of 64 ports is recommended.

SIP Ports

If you are using SIP, enable the following ports on the firewall:

UDP and TCP 5060	The port number might be different if the default local port configured in 🔧 **settings : SIP** is edited.
TCP 5061	Use if TLS is enabled.
UDP nnn...mmmm	RTP port range configured in 🔧 **settings : NETWORK & PROTOCOLS**. The configured RTP port range might be as small as 4 ports; a minimum of 64 ports is recommended.
TCP xxxx...yyyy	Call control port range configured in 🔧 **settings : NETWORK & PROTOCOLS**. The configured TCP port range might be as small as 1 port; a minimum of 64 ports is recommended.

Routers

Router with DMZ Host

If your router has a DMZ host configuration, enable the DMZ host and configure the private IP address field of the DMZ host to be the private IP address used by your PC running LifeSize Softphone.

CAUTION   Depending on the router brand and model, the DMZ host may be exposed directly to the Internet without router firewall protection. Refer to the documentation included with your router for more information.

Generic Router

If your Internet router uses a public IP address that is different from the IP address assigned to the PC running LifeSize Softphone (that uses NAT), you must do the following:

- In 🔧 **settings : NETWORK & PROTOCOLS**, enter your router IP address in **NAT IP Address**.

- In 🔧 **settings : NETWORK & PROTOCOLS**, set your **Local IP Address** to an IP address in the same LAN as your router.

- Configure your router to redirect network traffic to the ports listed in H.323 Ports and SIP Ports to your PC's **Local IP Address**.